

AN ANNOTATED LIST OF THORNE MOORS LICHENS

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INTRODUCTION

This list of Thorne Moors lichens includes all records located to the end of February 1987. The site remains underworked; published records are sparse, and few lichenologists have visited the moors. Many records are the result of casual observations and collecting, incidental to work on other taxonomic groups. Most parts of the moorland have been visited, although some of them on only a few occasions. A definition of the site, and the use of names within it, is given by Limbert *et al.* (1986).

HISTORICAL RECORDS

The first mention of Thorne Moors lichens appears to be in an account of a visit to the moorland c.1876 by Thos. Bunker and Thos. Birks jnr (Limbert 1983). The species encountered were apparently identified by Birks, although no details are known to have survived. In 1877 W. D. Roebuck reported that five species of lichen had been found on a Yorkshire Naturalists' Union excursion in that year, but he gave no information. The first specific record is for *Cladonia squamosa* (Scop.) Hoffm., reported by H. F. Parsons in 1878. In the same year Davis and Lees listed two species:

Cladonia rangiferina (probably *C. portentosa* (Dufour) Coem.
or *C. arbuscula* (Wallr.) Rabenh.)

C. cornucopioides (= *C. coccifera* (L.) Willd.)

A Y.N.U. excursion in 1881 noted "No . . . lichens worth recording," but in the *Flora of West Yorkshire* (Lees 1888), eight species are listed, the additions being:

Cetraria aculeata (= *Coelocaulon aculeatum* (Schreber) Link)

Platysma glaucum (= *Platismatia glauca* (L.) Culb. &
C. Culb.)

Peltigera canina (L.) Willd. (probably *P. membranacea* (Ach.)
Nyl.)

Lecidea uliginosa (Schrad.) Ach.

C. sylvatica (= *C. arbuscula* (Wallr.) Rabenh.)

The records of these foregoing species, all apparently originated by H. P. Parsons in the 1870's, are repeated in Y.N.U. excursion circulars and elsewhere (e.g. Watson 1946, Punting *et al.* 1969). A further record obtained by Parsons is of *Cladonia furcata* (Huds.) Schrad., which although referred to vaguely by Lees (1888) from "Thorne," was listed by Watson (1946) from Goole Moors. The single known record from the early years of the present century emanates from the Y.N.U. excursion in 1907, when *Cladonia floerkeana* (Fr.) Flörke was detected (Ellerby 1907).

The only species recorded in the nineteenth and early twentieth centuries which have not been found in recent years, are *Coelocaulon aculeatum* and *Cladonia arbuscula*. The recent discovery of the former on Hatfield Moors, about five miles south of Thorne Moors, perhaps makes its rediscovery quite likely. The latter now appears to be absent.

MODERN RECORDS

No further records have been traced until visits to Crowle Moors by M. R. D. Seaward in 1961 and G. A. Chapman (det. M. R. D. Seaward) in 1962. Subsequently, D. W. Shimwell listed three species found during ecological fieldwork in 1969 (Shimwell 1970). O. L. Gilbert undertook three visits in 1973, and D. Barber collected specimens on two occasions in 1981 (referees O. L. Gilbert and M. R. D. Seaward). These records are indicated by MRDS 1961, GAC 1962, DWS 1969, OLG 1973 and DB 1981 in the following annotated list. The specimens collected in 1961/62 are in herb. M. R. D. Seaward, and those of 1973/81 are held at Doncaster Museum.

The present author's collecting and observations covers the period January 1977 to October 1986. Although recording has been sporadic and rather patchy (in particular, crustose lichens on walls and stonework near the edge of the moors have been neglected), the relative frequency of the larger terricolous species is indicated where possible. Details of substrates and distribution relate entirely to the author's fieldwork.

The sequence and nomenclature mainly follows Hawksworth, James and Coppins (1980). The historical records cited above are not repeated in the list. Voucher specimens for most species exist in the author's herbarium.

ANNOTATED LIST

Caloplaca citrina (Hoffm.) Th. Fr.: Frequent on buildings on all sides of the moors. Occasional on calcareous clinker and pebbles on tramways. Rare in crevices in bark of *Alnus* and *Quercus* (Rawcliffe Moors and Thorne Colliery slopes).

C. holocarpa (Hoffm.) Wade: Scattered, on mortar, on all sites where this substrate has been found. On *Quercus* bark on Rawcliffe Moors.

C. saxicola (Hoffm.) Nordin: On a concrete slab at the Paraffin Mill.

Candelariella aurella (Hoffm.) Zahlbr.: On Elmhirst Pumping Station wall.

C. vitellina (Hoffm.) Müll. Arg.: On parapet of Pony Bridge, 740140.

Cetraria chlorophylla (Willd.) Vainio: Fairly frequent on *Salix alba* x *fragilis* in Will Pits. A single large thallus on *Alnus*, and smaller ones on *Populus tremula* and *Quercus robur*, on Rawcliffe Moors, 7218, 7219.

Cladonia chlorophaea (Flörke ex Sommerf.) Spreng.: MRDS 1961, OLG 1973. Frequent throughout, on bare peat (an early colonist after fires or cutting), on tree trunks and on tramway sleepers. This is the commonest *Cladonia* on mineral soil on tramways and on the colliery spoil heap. Also abundant in areas of burnt grassland on Broadbentgate Moor.

C. coccifera (L.) Willd.: Frequent on peat throughout. Perhaps most abundant on bare, damp peat among clearings where 'leggy' *Calluna* has parted. Also prominent on long-standing stacks of wet peat among *Betula* scrub-woodland.

C. coniocraea auct.: MRDS 1961, GAC 1962, OLG 1973. Frequent at bases of trees (*Betula*, *Quercus*) and on the boughs of large *Salix*. Rare on peat (Casson's Garden, Crowle Moors), but often colonising very old (15-20+ years) peat stacks if these are shaded.

C. conoidea Ahti: GAC 1962. A few podetia found in 1982 on sandy clinker on the disused colliery railway at 699166.

C. crispata (Ach.) Flotow: Frequent throughout on mossy peat which has not been cut or burnt for many years. Often tall and proliferous when growing in the shade of mature *Calluna*. Recorded from 14 1km squares, and the most abundant *Cladonia* in parts of Casson's Garden, Goole Moors beyond Rawcliffe Moors, the 'Middle Moor,' and Crowle Moors.

C. fimbriata (L.) Fr.: MRDS 1961, GAC 1962, OLG 1973, DB 1981. Fairly frequent on bare peat, especially the drier areas. Frequent on *Betula* trunks in exposed situations. Locally abundant on the more stable slopes of the colliery spoil heap.

C. floerkeana (Fr.) Flörke: DWS 1969, DB 1981. Abundant on peat in all habitats, and quick to colonise after commercial peat cutting or fires. Frequent on *Betula*, less so on *Quercus* and *Alnus*, and only once found on *Salix* (*S. atrocinerea*).

C. furcata (Huds.) Schrad.: A few depauperate podetia on *Polytrichum* among *Erica tetralix* at Casson's Garden, 726137. All other suspected gatherings proved to be *C. crispata*.

C. glauca Flörke: Mostly on rather dry peat with *Calluna*. Apparently scattered but scarce: Goole Moors, 7219, 7318; Thorne Waste, 7115; 'Middle Moor,' 7316; Casson's Garden, 7213; Crowle Moors, 747151. See also comments on *C. subulata*, below.

C. macilenta (L.) Hoffm.: DB 1981. Rather scarce on peat (usually wet), but probably the most frequent *Cladonia* on *Betula* bark in damp scrub and woodland. Found throughout the site.

C. polydactyla (Flörke) Spreng.: On a hard, decorticated *Betula pendula* stump on Goole Moors beyond Rawcliffe Moors, 727191. Only a single cluster of podetia was found, despite prolonged searching.

C. portentosa (Dufour) Coem.: Scattered across all parts of the moors. Nowhere abundant, but least rare amongst tall, 'leggy' stands of *Calluna* (7115, 7116, 7219, 7414). Locally frequent in sheltered hollows among *Calluna*, *Rhododendron* and *Kalmia angustifolia* at Casson's Garden.

C. squamosa (Scop.) Hoffm.: Abundant on undisturbed peat, both dry and wet. Very variable: tall and scyphous in the shade of *Rhododendron* at Casson's Garden, small and simple when exposed at the tram-side.

C. squamosa var. *subsquamosa* (Nyl. ex Leight.) Vainic: On wet peat, with *Erica tetralix* and *Andromeda*, 732142.

C. subulata (L.) Web.: OLG 1973, DB 1981. Frequent on undisturbed peat, among *Calluna* and *Erica tetralix*. Recolonising readily after small-scale fires, but seemed to be scarce in 7115 and 7116 after a more extensive fire in the late 1970's. Separation of *C. subulata* and *C. glauca* in the field was not possible. The above notes refer to the species-pair together. Out of c.140 samples which were collected, c.110 proved to be *C. subulata*.

Collema crispum (Huds.) Web.: Frequent on short-grass slopes of the colliery spoil heap. Occasional on shaley colliery wasteland and on the disused colliery railway.

C. tenax (Sw.) Ach.: Occasional on mosses on mineral soils of disused tramways on Thorne Waste, 7215, 7216 and Crowle Moors, 7414.

Diploicia canescens (Dicks.) Massal.: Scarce, on large *Salix* trunks near Swinefleet Warping Drain close to the tramway and Red House Farm, 755170.

Evernia prunastri (L.) Ach.: OLG 1973. Very scarce, but scattered. Least rare on large *Salix* in Will Pits, but tiny thalli have been found on a wide range of trees, including *Sambucus nigra* on the east bank of Swinefleet Warping Drain, 7517; *Quercus robur* on Rawcliffe Moors and on the colliery spoil heap; and *Betula pendula* near Casson's Garden.

Huillia albocaerulescens (Wulfen) Hertel: On a few hard, flat shale boulders and pebbles on the slopes of the colliery spoil heap, 712155. Fruiting abundantly.

Hypogymnia physodes (L.) Nyl.: OLG 1973. Frequent on *Betula* and *Calluna*. Fairly frequent on *Salix*. Rare on other trees, but colonising some very young *Quercus robur* near the colliery. Found throughout the site.

Lecanora albescens (Hoff.) Branth & Rostrup: Scarce, on Elmhirst Pumping Station and colliery fence-posts.

L. chlarotera Nyl.: Small colony on bark of *Populus tremula* on Rawcliffe Moors, 725189.

L. conizaeoides Nyl. ex Cromb.: MRDS 1961, OLG 1973, DB 1981. Abundant on almost all substrates. A rapid colonist of peat, wet and dry, and the most frequent epiphyte, abundant even on small twigs of *Betula* and *Calluna*. Also on most other trees and on buildings of all sorts.

L. dispersa (Pers.) Sommerf.: Abundant on fence-posts at the colliery, and on asbestos-cement on Broadbentgate Moor and at Swinefleet Moor Farm. Frequent on Elmhirst Pumping Station and on the mortar of the ruins of the Paraffin Mill. Frequent in crevices in *Alnus* bark on Rawcliffe Moors.

L. expallens Ach.: On *Acer pseudoplatanus* at the Paraffin Mill, 705171. On planks of a disused wooden peat-wagon on Crowle Moors, 748147.

L. muralis (Schreb.) Rabenh.: Frequent at Elmhirst Pumping Station, the Paraffin Mill, the colliery and surrounding farms. Once found in 'Middle Moor,' on a piece of asbestos-cement of unknown origin.

L. soralifera (Suza) Räsänen: Scarce and scattered, on hard bark or decorticated wood, especially on bosses at the base of fire-coppiced *Betula* scrub. Also found on a sandstone slab beside the old colliery railway, 699168.

L. uliginosa (Schrad.) Ach.: DWS 1969, OLG 1973. Scattered, on damp, bare peat, often quite close to the water's edge. Scarce on rotting wood (*Salix*, *Alnus*).

L. granulosa (Hoffm.) Ach.: MRDS 1961, DWS 1969, OLG 1973. Very common on bare peat; one of the first lichens to colonise after peat cutting, and still abundant in mature vegetation. Also frequent on trees (*Betula*, *Salix*, *Alnus*, *Quercus*), on tramway sleepers, and on old *Calluna* stems.

Lecidella stigmatea (Ach.) Hertel & Leuckert: On asbestos-cement at the colliery, on Broadbentgate Moor, and near Swinefleet Warping Drain. On mortar at Elmhirst Pumping Station, and among rubble at Bell's Pond. On calcareous pebbles on the tram line near Shoulder O'Mutton.

Lepraria incana (L.) Ach.: MRDS 1961. Frequent on lower surfaces of leaning tree trunks (all species). Especially characteristic of damp vertical surfaces of old peat cuttings. Found throughout the site.

Parmelia glabratula (Lamy) Nyl. ssp. *glabratula*: OLG 1973. Scattered on *Salix*, and found on *Alnus* on Goole Moors. Less frequent than *P. sulcata*.

P. subaurifera Nyl.: On a large, isolated *Salix alba* x *fragilis* on the east side of Swinefleet Warping Drain, 745146.

P. sulcata Taylor: OLG 1973. On *Salix* (*S. alba* and *S. alba* x *fragilis*, and less frequently on *S. atrocinnerea* and *S. viminalis*). Frequent in Will Pits, scattered elsewhere. Locally abundant on *Alnus* and *Populus tremula* on the northern edge of Goole Moors. Colonising *Quercus robur* near the colliery.

Feltigera membranacea (Ach.) Nyl.: "By a path, on mineral soil," OLG 1973.

P. hymenina (Ach.) Delise: On a disused mineral-soil tramway, 7215.

P. rufescens (Weis) Humb.: "Crowle Moors," MRDS 1961.

P. spuria (Ach.) DC.: DB 1981. Scattered and fairly frequent on tramsides (peat with mineral influence), and also found on dry, mossy peat (especially a few years after burning), 7115, 7213, 7215, 7217, 7315, 7415.

Phaeophyscia orbicularis (Necker) Moberg: Abundant on colliery fence-posts and buildings, and at most farms around the moors. Colonising kerb-stones on the new colliery road by 1984.

Physcia adscendens (Fr.) H. Olivier: On concrete posts around the colliery buildings.

P. caesia (Hoffm.) Fürnrohr: On mosses on wall top at Elmhirst Pumping Station.

P. tenella (Scop.) DC.: OLG 1973. Frequent throughout on *Salix*, *Quercus*, *Alnus* and *Populus tremula*; occasional on *Betula*. Abundant on mortar and calcareous stonework at the colliery, Red House Farm, and Swinefleet Moor Farm.

Physconia grisea (Lam.) Poelt: A few small thalli on a large *Alnus* on Rawcliffe Moors, 723190.

Platismatia glauca (L.) Culb. & C. Culb.: Locally frequent on *Salix* in Will Pits and along Swinefleet Warping Drain. Rare on *Alnus* on edge of Goole Moors.

Psilolechia lucida (Ach.) M. Choisy: On wall of Elmhirst Pumping Station. Scarce on fence-posts at colliery.

Ramalina cf. *farinacea* (L.) Ach.: A few very small thalli on *Salix alba* in Will Pits.

Rhizocarpon concentricum (Davies) Beltr.: On mortar of wall over the dry section of Durham's Warping Drain, 710160. On brickwork near Creyke's Sidings, 720185.

Rinodina gennarii Bagl.: On brickwork at the Paraffin Mill and Swinefleet Moor Farm.

Scoliciosporum umbrinum (Ach.) Arnold: On asbestos-cement beside Swinefleet Warping Drain, 752165, apparently brought from Red House Farm, 755170, where *S. umbrinum* is abundant.

Trapelia coarctata (Sm.) Choisy: On a sandstone slab beside the disused colliery railway line, 699168.

Usnea subfloridana Stirton: OLG 1973. Three small thalli on one bough of a *Salix alba* x *fragilis* in Will Pits, and another on a *Salix* at the edge of Swinefleet Warping Drain. One tiny plant on *Alnus* on the northern edge of Goole Moors.

Verrucaria nigrescens Pers.: On mortar of a wall, on Broadbentgate Moor, 708150. On concrete slabs on shaley colliery wasteland, 7016.

Xanthoria calcicola Oxner: Abundant on asbestos-cement at Red House Farm, 755170.

X. candelaria (L.) Th.Fr.: At the foot of an exposed *Alnus* trunk on the northern edge of Goole Moors, 7318.

X. parietina (L.) Th.Fr.: Frequent at the colliery, Elmhirst Pumping Station, Paraffin Mill, and all surrounding farm buildings. Scarce on trees: *Quercus* and *Ulmus glabra* near the colliery, *Salix* in Will Pits, *Quercus* and *Alnus* on Rawcliffe Moors, and on old *Betula pendula* in the 'Middle Moor' and on Crowle Moors.

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REFERENCES

- Bellerby, W. (1907) [untitled records of bryophytes and a *Cladonia*], in Natural History of Thorne Waste. *Naturalist* 32: 324.
- Bunting, W., M. J. Dolby, C. A. Howes and P. Skidmore (1969) *An Outline Study of Hatfield Chase. Part 1.* Thorne.
- Davis, J. W. and F. A. Lees (1878) *West Yorkshire: an account of its geology, physical geography, climatology and botany.* London.
- Hawksworth, D. L., P. W. James and B. J. Coppins (1980) Checklist of British Lichen-forming, Lichenicolous and Allied Fungi. *Lichenologist* 12: 1-115.
- Lees, F. A. (1888) The Flora of West Yorkshire. *Bot. Ser. Trans Y.N.U. Vol. 2.*
- Limbert, M. (1983) An Early Visit to Thorne Moors. *Lapwing* 14: 18-26.
- Limbert, M., R. D. Mitchell and R. J. Rhodes (1986) *Thorne Moors: Birds and Man.* Doncaster.

Parsons, H. F. (1878) Supplement to the Botanical Report for the Year 1878. *Trans Y.N.U. Ser. E. Botany*: 29-50.

R[oebuck], W. D. (1877) Reports of Societies: Yorkshire Naturalists' Union. *Naturalist* 3: 30-2.

Shimwell, D. W. [1970] *Notes on the Vegetation of Thorne Moors*. unpubl.

Watson, W. (1946) The Lichens of Yorkshire. *Trans Y.N.U. Pt 37*: 1-64 [separate pagination].

W[rigglesworth], E. B. (1881) Reports of Societies: Yorkshire Naturalists' Union. *Naturalist* 7: 22-4.